**Washington State
Department of Transportation**

MicroStation - Metric to English Conversion (63 LEVEL ONLY)

Overview

When working with legacy WSDOT DGN files, you may come across some that were generated using Metric units. Currently the standard WSDOT working units are US Survey Ft English. Whether they are legacy WSDOT or from external affiliates, Metric files need to be converted to English units to work in the WSDOT environment.

Basic Workflow

This process is accomplished in 5 basic steps:

- Open the Metric base plan in the WSDOT English workspace
- Record coordinates for checking conversion
- Modify the working units
- Run the WSDOT Metric to English utility
- Check coordinates

Open the Metric base plan in the WSDOT English workspace

1. Open MicroStation in the WSDOT standard [English] environment.
2. In the MicroStation Manager, browse to and select the Metric DGN file.

Record information for checking conversion

When converting data from one unit to another, it is important to know if the conversion worked. The intent is to find an element in the dataset, record its coordinates, then manually convert them to the final coordinates. This will become the independent check on the overall process.

3. Find an element in the DGN dataset that is easy to identify.

    Remember this element so you can snap to it again after the conversion.

4. Tentatively snap to it
5. Write down its original coordinates, (coordinate readout is in the status bar at the bottom of the MicroStation session).

Use your calculator to convert the coordinates

6. Multiply the x & y factors by 3.28083333.
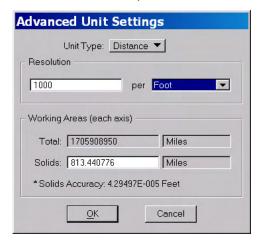7. Write down the new coordinates.

After the process is complete, you can snap to this point again and compare its coordinates with the calculated coordinates to double check the conversion process.

Modify the Working Units

8. Select **Settings > Design File > Advanced**.

9. At the Warning message Select OK.
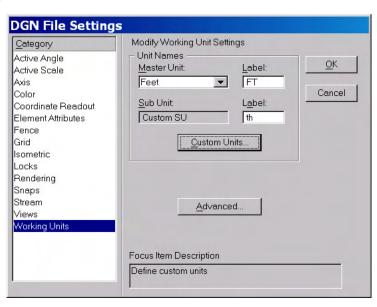
    The Advanced Unit Settings dialog displays.

10. Change the Resolution to 1000 per Feet as shown below.

11. Select **OK**.
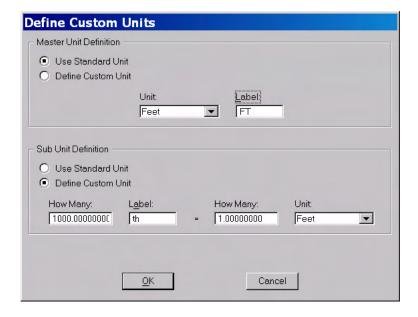
    You are returned to the DGN File Settings dialog.

12. Change the *Master Unit* to Feet.

13. Change the *Master Unit* Label to FT.

14. Select the **Custom Units** button.

15. Fill out the *Define Custom Units* dialog as shown below:

16. Select **OK**.

> You are returned to the *DGN File Settings* dialog.

17. Click **OK** to close the dialog box.

18. From the main MicroStation Pull down menu select ***File > Save Settings > Design***.

> This deliberately writes these changes to the DGN file.

Run the WSDOT Metric to English utility

WSDOT has developed a conversion utility to convert Metric scaled cells and linestyles to English according to WSDOT standards.

19. Using MicroStation's Key-in, type "Macro mettoeng" and press <Enter>

20. Allow the utility to process all of the DGN data.

Check Coordinates

21. Find the same element that was used in Step 3

22. Snap to it

23. Check the coordinates.

> They should be the same as the calculated ones.

For questions or comments on this tech note, contact your regional CAE Support Coordinator.